

the value of the tokens and storing account information in an account records database. The system may further comprise a billing policies database, which includes billing policies for the printer device such that each printer device uses at least one billing policy to determine the cost of each operation, performed on the printer. Furthermore, the mobile access unit can be a personal digital assistant, wireless telephone or mobile computer. Also, the mobile access unit transmits using a wireless link. The system may further comprise a user configuration unit coupled to the billing polices database for updating and configuring billing polices for new users. The billing system may include at least one memory device and a processor and can be either a back office billing system or an Internet Settlement Model. Also, the user can authorize the charges before the document is printed and the user's identify is authenticated by the system by submitting user credentials.

In a further aspect of the invention, the invention is a method for electronically recording transactions performed on at least one predetermined printer device, such that the printer device is coupled to an mobile access unit with transmits the content which is to be printed, comprising the steps of: transmitting a print request to the billing manager; retrieving billing policies for the printer device; indicating to a user the cost for a desired print request such that the cost is determined by associating a predetermined amount of token values with each particular operation performed by the printer; printing selected document at the predetermined printer device and generating an accounting of costs based on the usage of the predetermined printer device.

The method further comprises the step of authenticating the user's identity by transmitting user credentials to the billing manager. Also, the method illustrates wherein the billing manager associates a predetermined number of tokens for each corresponding event and tabulates the number of events that occurred during the printer operation and determining from that the token charge. The method further comprises the step of interfacing the printer device with a billing manager in such a way that allows the mobile access unit to connect with the billing manager. The method further comprises the step of sending the accounting information to a back office billing system which maintains accounting records of users and periodically issues an accounting of costs to the user. And the method further comprises the step of storing users account information in an account database and connecting the database to the billing manager.

Some of the advantages of the present invention include the user or owner of a printer device to charge for usage on their device and only be billed for their net usage. The present invention has the ability to allow individual printer devices to be configured with specific billing policies and bill users of the device according to those policies. The users are billed not only for printing documents but also finishing options such as binding, stapling and other functions. Also, the ease of the centralized control and configuration of billing parameters is a benefit. Those skilled in the art will appreciate these and other advantages and benefits of various embodiments of the invention upon reading the following detailed description of a preferred embodiment with reference to the below listed drawings.

BRIEF DESCRIPTION OF DRAWINGS

The invention is described in greater detail hereinafter, by way of example only, through description of a preferred embodiment thereof and with reference to the accompanying drawings in which:

FIG. 1 is a block diagram of an automatic mobile job billing system according to an embodiment of the invention;

FIG. 2 is a flow chart illustrating an automatic mobile job billing method of technique in accordance with an embodiment of the invention;

FIG. 3 is a flow chart illustrating a billing system transactions scheme in accordance with an embodiment of the invention; and

FIG. 4 is a flow chart illustrating a periodic token billing resolution scheme in accordance with an embodiment of the invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT OF THE INVENTION

Referring now to the drawings and in particular FIG.1, an exemplary embodiment of the Centralized Billing Token Credit System 2 is shown. The system 2 can be implemented using a variety of hardware platforms and includes devices for input such as a personal digital assistant (PDA) or wireless telephone, laptop computer of the like. The system 2 includes: a billing manager 4, a billing policies database 6, billing system software 8, an account records database 10, printer device(s) 12, a mobile access unit 14, and an initial setup unit 16.

The system 2 provides for the ability to configure any printer device directly with billing policies and allow any mobile user to print to devices based on those billing policies. Examples of those policies can be: classifying a printer as free, charging per page, allowing any users within an access list to print for free, charging different prices based on the user, and specific charges for finishing options such as stapling, collating, binding, printing color documents, etc.

The operation of the system 2 will be discussed with regards to FIG. 1. The user submits a job to be printed via a mobile access unit 14. Devices such as a personal digital assistant, wireless phone, or laptop computer can be employed as the mobile access unit 14. One of ordinary skill will recognize that the list is not restricted to the stated devices. As will be discussed in greater detail later, the mobile access unit 14 connects to the billing manager 4 using mobile connectivity.

The billing manager 4, manages the billing policies attributed to each printer device 12 and also contains higher level policies. For example, one policy may be to charge everyone in a given department a certain price. The billing manager 4 may also contain a system processor and a memory device (not shown). The billing manager 4 may be connected to a billing policies database 6. The billing policies database 6 may be configured to store site or location-specific billing policies. For example, the billing policies could be free or for-fee printing, billing fee per page for each type of printer, user access lists for each device and accounting location information. The billing policies database 6 can be configured for a specific department or a user basis for predetermined users. The billing manager 4 may also be connected to the printer device(s) 12. The printer device(s) 12 may be known printer units that are capable of color printing and other known printer characteristics. The printer device(s) 12 may have device-